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TSTF Response to NRC Letter Dated May 25, 2011

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TSTF-523

- TSTF-523 proposed:
  - Expand the ECCS, DHR, and Containment Spray LCO Bases to describe gas management as an important aspect of system Operability.
  - Relocate the existing SRs on gas accumulation (one for PWRs, three for BWRs).
  - Add a Gas Management Program description to the UFSAR capturing the on-going aspects of gas management.

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Key Aspects of the May 25 Letter

- The NRC proposed the following in the May 25 letter:
  - Add new SRs to systems potentially affected by entrained gas beyond those discussed in GL 2008-01.
  - Revise the existing "full of water" SRs to verify that gas volumes are within limits with the Frequency and methods controlled by an Administrative Controls program.
  - The Administrative Controls program would reference an NRC approved document.
  - The NRC approved document would specify the Frequency of testing and a method to modify the Frequency, as well as Surveillance methods and activities related to outages and maintenance.

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TSTF Analysis of the May 25 Letter

- The TSTF carefully considered the May 25 letter and determined that the proposed approach is not suitable as the basis for a revision to the Technical Specifications.
- The following provides an overview of our findings.
- The TSTF will propose an alternative that we believe addresses the shortcomings of both TSTF-523 and the May 25 letter.

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Addition of New Surveillances

- The letter states "Further, the existing Technical Specifications (TSs) and the proposed TSTF-523 do not address coverage of potentially affected systems consistent with industry system coverage provided in NEI 09-10, Revision 1."
- The industry does not agree that NEI 09-10 provides a basis for imposing new requirements on licensees.
  - This was stated explicitly in the December 21, 2010 transmittal letter of NEI 09-10, Rev. 1.

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Addition of New Surveillances

- In the May 25 letter, the NRC referred to 10 CFR 50.36(c)(3) which states that SRs are "...requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met."
- This describes the purpose of SRs, but there is no regulation which describes which parameters will be verified by SRs. Not all parameters are the subject of SRs.

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Addition of New Surveillances

- An NRC request to add new requirements to a licensee's Technical Specifications must follow an established regulatory process, such as a new or supplemented Generic Letter.
- The TSTF will not volunteer to propose Surveillance Requirements in TSTF-523 beyond the scope of the systems in the Generic Letter.

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Revision of the Existing Surveillances

- The NRC suggested that the existing SRs be changed from "Verify [system] piping full of water" to "Verify that system gas volumes are within limits in accordance with the Gas Management Program."
- The NRC suggested that the Bases for the SR be revised to state:
  - The system piping can be considered sufficiently filled with water so that the surveillance requirement is met if the licensee can acceptably conclude through an operability determination that there is a reasonable expectation that the system in question can perform its specified safety function.

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Revision of the Existing Surveillances

- The NRC proposed Bases state that the purpose of the SR is to confirm the system is Operable.
- However, that is not what the SR requires.

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Revision of the Existing Surveillances

- The proposed SR does not require confirming the system is Operable. The SR requires comparison of the system gas volumes to explicit limits. This will require licensees to establish gas volume limits for all areas in the system for all operating conditions within the Applicability.
  - These limits could be "zero."
- The SR requires periodically examining the entire system to determine the gas volumes and comparing them to the limits.

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Revision of the Existing Surveillances

- The NRC stated purpose of the SR is inconsistent with the SR wording and the TS usage rules.
- If the system gas volume is not "within limits", the SR is not met and under SR 3.0.1, the LCO is not met.
  - The Actions must be followed, up to exiting the Applicability (a plant shutdown).
- An Operability Determination does not allow the LCO to be considered met per SR 3.0.1.
  - The TSTF proposed a change to SR 3.0.1 to add this allowance in 2008 but it was not accepted for review by the NRC.

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Revision of the Existing Surveillances

- The NRC proposes the SRs state "Verify that system gas volumes are within limits in accordance with the Gas Management Program"
- The Frequency would be "In accordance with the Gas Management Program."
- The proposed Gas Management Program would be in Section 5.5 of the Administrative Controls and be similar to:
  - "Surveillance requirements shall be as specified in a document that has been approved by the NRC."

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Revision of the Existing Surveillances

- In July 2009, the NRC approved TSTF-425, "Relocate Surveillance Frequencies to Licensee Control - RITSTF Initiative 5b."
- This Traveler relocates all periodic Surveillance Frequencies to licensee control and references an approved process (NEI 04-10) for revising those Frequencies under licensee control.
  - The periodic Frequencies for verifying that systems are full of water are relocated to licensee control.
- This Traveler has already been approved for at least 34 units (one third of the industry).

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Revision of the Existing Surveillances

SURVEILLANCE REQUIREMENTS

SURVEILLANCE			FREQUENCY
SR 3.5.2.1	Verify the following valves are in the listed position with the power lockout switches in the lockout position.		In accordance with the Surveillance Frequency Control Program
Valve Number	Valve Function	Valve Position	
HV-8835	SI Pump Cold Leg Inj.	OPEN	
HV-8840	RHR Pump Hot Leg Inj.	CLOSED	
HV-8813	SI Pump Mini Flow Isol.	OPEN	
HV-8806	SI Pump Suction from RWST	OPEN	
HV-8802A, B	SI Pump Hot Leg Inj.	CLOSED	
HV-8809A, B	RHR Pump Cold Leg Inj.	OPEN	
SR 3.5.2.2	Verify each ECCS manual, power operated, and automatic valve in the flow path, that is not locked, sealed, or otherwise secured in position, is in the correct position.		In accordance with the Surveillance Frequency Control Program
SR 3.5.2.3	Verify ECCS piping is full of water.		In accordance with the Surveillance Frequency Control Program

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Revision of the Existing Surveillances

- In the NRC approval of TSTF-425, the decision was made that no periodic SRs were "special" and all periodic SR Frequencies would be relocated.
- Since the NRC has already approved a program for licensee control of periodic Frequencies and approved its application in about one-third of operating plants, the TSTF does not support the development of a new program for gas management SR Frequency control.
  - Doing so undermines the credibility of the NRC's approval of TSTF-425.

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Revision of the Existing Surveillances

- In the model Safety Evaluation for TSTF-523, the NRC could describe the key attributes to be considered when revising a gas management SR Frequency using NEI 04-10, provided the description is consistent with the approved process.
- The specifics of TSTF-425, the Surveillance Frequency Control Program, and NEI 04-10 are beyond the scope of today's meeting.
- If desired, the TSTF would support a meeting between the NRC and industry experts on the NEI 04-10 process.

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Revision of the Existing Surveillances

- The NRC proposes the SRs state "Verify that system gas volumes are within limits in accordance with the Gas Management Program"
- The proposed Gas Management Program would be in Section 5.5 of the Administrative Controls and be similar to:
  - "Surveillance requirements shall be as specified in a document that has been approved by the NRC."

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TS "Gas Management Program"

- The letter states the approach has the following advantages:
  - Licensees may use a generic document or a plant-specific document provided the document has been approved by the NRC.
  - Adoption of revisions to the generic document is envisioned to be optional.
  - Modification of the document does not require a license amendment, although it does require NRC approval.

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TS "Gas Management Program"

- Reference to an unnamed, undated document in the Administrative Controls would be inconsistent with many recent NRC actions:
  - TSTF-425, "Relocate Surveillance Frequencies to Licensee Control - RITSTF Initiative 5b"
  - TSTF-493, "Clarify Application of Setpoint Methodology for LSSS Functions"
  - TSTF-500, "DC Electrical Rewrite - Update to TSTF-360"
  - NRC withdrawal of approval of:
    - TSTF-363, "Revise Topical Report references in ITS 5.6.5, COLR", TSTF-408, "Relocation of LTOP Enable Temperature and PORV Lift Setting to the PTLR (CE NPSD-683)", and TSTF-419, "Revise PTLR Definition and References in ISTS 5.6.6, RCS PTLR"

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TS "Gas Management Program"

- Based on this history, the TSTF believes a specific reference in the TS to a document by name, date, and/or revision number would be required.
- This would eliminate the benefits cited in the letter.

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Example Document

- The May 25 letter contained an example document and stated "a document the NRC will consider approving may be similar to the following draft."

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Example Document

- The proposed Gas Management Program is referenced in both the SR body and the Frequency.
- Failure to meet <u>any</u> aspect of the referenced document would be considered failure to meet the SR and, under SR 3.0.1, would require declaring the LCO not met, regardless of system Operability.
  - This would include administrative requirements, such as failure to trend all possible sources of gas.

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Example Document

- The example document contains many vague, undefined terms unsuitable for reference in Technical Specifications requirements:
  - "All potential sources of gas are monitored and trended"
  - Use of "acceptable" ... generally means ... a method that has been approved by the NRC. It is not necessary that the NRC pre-determine that the item is acceptable."
  - determined to not challenge system operability based on one half of the maximum acceptable void volume, location, Froude number, or other acceptable technical basis
- There are many more examples.

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Example Document

- SRs verify the LCO is met and the LCO is the "lowest functional capability" of the system per 50.36(c)(2).
- The SR acceptance criteria should be the Operability limit. But in several instances, the example document applies one-half of the Operability limit.

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Example Document

- The example document states that the periodic Surveillance is to be performed every 31 days and describes a process for changing the Surveillance Frequency.
- As discussed above, the proposed process is inconsistent with TSTF-425, NEI 04-10, and approved license amendments.

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Example Document

- The NRC example program is duplicative or contrary to existing TS and regulatory requirements in many locations.
- Examining one paragraph as an example:
  - "Failure to meet a gas volume acceptance criterion shall require (1) immediate entry into the corrective action program (CAP), (2) an immediate operability determination, and (3) a decreased scheduled time between surveillances that is sufficiently short to reasonably ensure that the affected locations will remain within acceptance criteria until the cause of the failure is corrected."

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Example Document

- "immediate entry into the corrective action program (CAP),"
  - 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," states: "Measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition."
- Failure to meet a TS SR is required to be evaluated under the corrective action program. The example document requirement is duplicative.

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Example Document

- "(2) an immediate operability determination,"
  - "Failure to meet a gas volume acceptance criterion," means the SR is not met and per SR 3.0.1, the LCO is not met. The system is inoperable.
  - Per Part 9900, "Operability Determinations & Functionality Assessments for Resolution of Degraded and Nonconforming Conditions Adverse to Quality or Safety" (the OD Process) states:
    - "If an SSC is clearly inoperable (e.g., loss of motive power or failed TS surveillance), it must be declared inoperable and the operability determination process, per this Part 9900 technical guidance, need not be entered."
  - The example document requirement is contrary to TS usage rules and NRC guidance.

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Example Document

- "a decreased scheduled time between surveillances that is sufficiently short to reasonably ensure that the affected locations will remain within acceptance criteria until the cause of the failure is corrected."
  - SR 3.0.1 states, "SRs shall be met during the MODES or other specified conditions in the Applicability for individual LCOs, unless otherwise stated in the SR. Failure to meet a Surveillance, whether such failure is experienced during the performance of the Surveillance or between performances of the Surveillance, shall be failure to meet the LCO."
- The Frequency of a Surveillance is irrelevant if there is doubt that the acceptance criteria are met. The licensee must take action to confirm the acceptance criteria are always met or declare the SR not met. The example document requirement is duplicative and misleading.

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Example Document

- The example document imposes requirements in Modes that are outside the Applicability or when the equipment is inoperable and, therefore, when the SRs are not required to be met.
- Per SR 3.0.1:
  - "SRs shall be met during the MODES or other specified conditions in the Applicability for individual LCOs,"
  - "Surveillances do not have to be performed on inoperable equipment."

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Example Document

- Section 3, "Surveillances Associated with Outage and Maintenance," discusses "Any system maintenance activity that will result in a reduction in fluid inventory of a fluid system," and requirements during maintenance, fill and vent, etc.
  - If an SR requires the system to be "full of water" and it's not, it's inoperable and the SR is not required to be met.
  - If the activity is outside the Applicability of the LCO (such as during cold shutdown), the SR is not applicable.
- At best, these sections can be ignored. At worse, they create a compliance conflict within the TS.

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Example Document

- The example document is a technical, detailed process document unsuitable for referencing in the Technical Specifications in both general approach and specific detail.
  - It is attempting to introduce procedural detail into the license.
  - It is inconsistent with Technical Specifications, regulations, NRC guidance documents and NRC initiatives.

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Summary

- The TSTF does not believe the May 25 letter provides a viable alternative to TSTF-523, in that it:
  - Requests that licensees adopt new regulatory requirements (SRs) without following an applicable regulatory process.
  - Proposes to revise the existing SRs with requirements inconsistent with maintaining system Operability.
  - Proposes to impose procedure-level detail on gas management activities in the TS, creating compliance and Operability conflicts.
  - Proposes an example program that is unsuited for reference in the TS and is duplicative or contrary to TS and regulations.

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TSTF Proposed Alternative

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Alternative Approach

- The TSTF proposes to develop a revision to TSTF-523 that would:
- Revise the existing SRs to state:
  - "Verify [ECCS/RCIC] locations susceptible to gas accumulation are sufficiently filled with water."
- The Bases of the Surveillance would reference acceptable methods of identifying locations susceptible to gas accumulation, determination of gas volume limits, and acceptable methods for performing the SR.

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Alternative Approach

- The SR Frequency would be "In accordance with the Surveillance Frequency Control Program."
  - For plants without an SFCP, the Frequency would be 31 days.
  - For plants with an SFCP, the starting Frequency would be 31 days.
- The Bases of the Surveillance would acknowledge that different locations in the system could have different performance Frequencies under the SFCP.

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Alternative Approach

- In the model Safety Evaluation for TSTF-523, the NRC could describe the key attributes to be considered when revising a gas management SR Frequency using NEI 04-10, provided the description is consistent with the approved process.
- The LCO Bases of the systems within the scope of GL 2008-01 would be revised to state that management of gas voids is important to system OPERABILITY.

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